NARRATIVE REPORT

for

1966

SHERBURNE NATIONAL WILDLIFE REFUGE

Princeton, Minnesota

Sher 127 - 1/10/67 - Left to right, Mgr. John Carlsen, Clerk-typist Marlene Helmen, Patrolman Milt Elveru, and Assistant Mgr. Barney Schranck.

Personnel Roster

J. C. Carlsen . . . . . Refuge Manager
Barnet W. Schranck(E.O.D. 6/20/66).Ass't Refuge Manager
Marlene M. Helmen(E.O.D. 9/26/66) . . . . Clerk-Typist
Milton C. Elveru(E.OD. 11/1/66) . . . Laborer-Patrolman

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SHERBURNE NATIONAL WILDLIFE REFUGE

Princeton, Minnesota

NARRATIVE REPORT

Calendar Year 1966

I. General

A. Weather Conditions - 1966

TABLE I

	Precipitation				
	Snowfall*	This Month*	Normal**	Max. Temp.*	Min. Temp.*
January	9"	.83	.90	30	-32
February	1.5"	.81	.90	50	-22
March	2"	1.37	1.50	67	0
April	T	2.04	2.00	67	18
May	0	1.86	3.70	89	20
June	0	2.82	4.50	92	42
July	0	6.27	3.30	98	48
August	0	4.46	3.70	90	43
September	0	1.11	2.40	86	28
October	0	1.10	2.00	84	6
November	7"	.56	1.50	51	-10
December	11"	.95	.80	40	-15
Annual Totals	30.5	24.18	27.20	Extremes 98	-32

* Data obtained from official weather station maintained by Gordon Wold of rural Santiago, $\frac{1}{2}$ mile north of the Refuge.

** Data from Milaca, Minnesota weather station located 15 miles north of the Refuge.

Spring thaws resulted in dotting the refuge landscape with numerous bodies of water. Moisture was slightly below normal which resulted in making it possible for farmers to get at their fields early. Warm temperatures coupled with well spaced rain-storms resulted in bumper crops from the sandy soils on the refuge. The fall and early winter months were extremely dry as well as warm which resulted in an early and rapid harvest of the summer crops.

B. Habitat Conditions

1. Water. Considerable surface water was present on the Refuge during the spring, but water levels receded rapidly. Heavy rains occurred in early July which improved the waterfowl habitat conditions.

At the present time, there are no water control facilities to hold the water on the land, and the extensive ditching throughout the refuge results in rapid drainage of the area. The St. Francis River fluctuated over four feet during the month of July as a result of the heavy rains.

The dry fall experienced by the refuge resulted in a very drastic reduction of waterfowl habitat. Nearly all type III and many type IV potholes were dry. Only Lake Josephine, Mud Lake, Bergerson Slough and Rice Lake contained water to any degree beside the river. Water levels were so low that travel by boat was nearly impossible.

Refuge Lake freeze up occurred in mid-October, but the St. Francis River remained open into December.

2. Food and Cover. Winter cover is entirely adequate on the refuge as is summer cover. Food is apparently an important limiting factor throughout the whole area. The farming practices over the past years have shifted from corn to soy beans and rye. While the beans do provide a considerable amount of wildlife food during those periods they are available, they quickly become unavailable after harvest with the advent of snow cover. Fall rye is an important local crop, and could be well utilized by migrating geese, however, its value as a winter grain supplement is limited.

The refuge share of corn was left standing in the field and is being well utilized by the deer. These feeding areas are proving to be very important in providing winter food for Refuge wildlife.

Natural browse is lacking. Much of the land is covered with mature oak cover which provides little in the way of winter feed.

The Mast crop was spotty in areas around the Refuge. Very few acorns were present, and practically no nuts developed on the Hazel brush.

The wild rice crop was about average in Mud Lake, Rice Lake, Lake Josephine and Bergerson Slough. While this food was available early, nearly the entire crop was utilized by migrating coot. Little rice was left for the ducks which arrived some weeks later.

Other aquatics were also well utilized by waterfowl, but sago pondweed is scarce on the refuge. Records from previous aquatic surveys have shown that sago was perhaps the most common aquatic plant. Today, sago is far down the scale of abundance, and has been replaced by less desirable coontail.

A partial list of refuge aquatic plants and upland plants along with their abundance is contained in the appendix.

II. Wildlife

A. Migratory Birds.

Mallards and goldeneyes appeared in open stretches of the St. Francis River in mid-March. In ensuing weeks, the number of birds seen had increased considerably with ring-necked ducks, scaup and Canada geese being common. Woodducks began to increase by the end of March. Early April marked the beginning of the arrival of the Whistling swans. Populations increased, but most of the birds continued their northerly movements. Mallard numbers dwindled while the blue-winged teal population reached their peak in mid-May. The teal in turn moved north leaving the woodduck as the most abundant summer resident.

Rails, herons and bitterns arrived steadily throughout the spring, but no substantial population buildup occurred. Gulls and terns passed through the area in March as did a fair variety of shore birds. Sora rails, great blue herons, green herons, American and least bitterns are all apparently nesting on the refuge.

Pied-billed, eared and horned grebes also migrate through the area. Pied-bills are a common nester on the project. Two pair of common loons used the refuge this past summer. One pair was successful in bringing off a brood of one.

No data are available on nesting success or predator pressures for the Sherburne Refuge. Generally speaking, the area should be having an average predation rate resulting in overall nest success of 50%. The summer breeding population was calculated at just under 400 birds. By the middle of August, blue-winged teal began to concentrate on the area. The teal reached a peak of 1200 during the first week of September, and

slowly declined until the middle of October. The number of mallards decreased rapidly, but were present on the area until early December.

American coot were not present during the summer, but began to show up in the early fall. The first coot arrived in late August, and built up to a population of 4,000 strong. Needless to say, the coot devourered nearly the whole 1966 crop of wild rice.

By mid-Septmeber, Canada geese were seen throughout the surrounding country side. One flock of 60 birds was the only group known to actually use refuge waters. Several flocks of Canadas passed over the Sherburne Refuge.

On October 8, 1966, the opening of the 1966 waterfowl hunting season, 17 flocks of blue and snow geese (800 birds) passed over the refuge. Due to the pattern of land ownership on the refuge no lands were closed to public hunting, and as a result there was not a safe place for the geese to land. A single snow goose attempted a landing, and was promptly killed. Large flocks of blues and snows continued passing over the refuge during the next couple of weeks with no known landings. Once the refuge is established and protection and food provided, Sherburne should host a substantial population of both Canada and blue and snow geese.

B. Upland Game Birds.

Pheasants showed no increase over the previous low population from last winter. Only one brood of pheasants was observed on the area during the past season. Several Sportsmen's Clubs have made pheasant releases in the surrounding area, but we ahve little indication of an increase in the over all population. To date, there are 17+ inches of snow on the ground. There is also a hard crust of ice over much of the snow cover. This looks like another bad winter for the pheasant. No evidence of pheasants feeding in the refuge standing corn has been found.

Ruffed grouse were low last year, but have shown a good recovery this fall. State drumming counts did not change from last year, but a general estimate of the refuge population shows a very huntable resource.

C. Big-Game Animals.

The entire refuge was open to public hunting the past season, and thirty-five to forty white-tailed deer were killed. These animals appear to be in excellent condition, but hard to hunt because of the abundant cover. Larger numbers of hunters are needed on the area to obtain a good harvest.

One mule deer was killed just east of the refuge near Elk Lake. This was

an unusual kill, but it is expected to occur again as the mule deer moves farther east.

D. Fur Animals, Predators, Rodents and Other Mammals.

Muskrats and mink are common on the refuge, and reports from local trappers indicate that the population is not much changed over last year.

Striped skunk and raccoon populations are high and probably are responsible for a good portion of the waterfowl nest predation. The red fox has been reported in large numbers by a few local sportmen, but most hunters and information obtained from track counts would indicate that the fox is not too abundant.

Cotton-tail rabbits exist only in isolated farm groves on the refuge, and these are few and far between. No cotton-tails have been seen by refuge personnel. This species was once quite abundant on the project area.

Whitetail jackrabbits are also experiencing a population slump. A few tracks are found scattered over the refuge, and four jacks were seen on the south boundary adjacent to the Sand Dunes State Forest. This is another species that should experience a come-back during the coming development years.

Black bears were reported near the refuge this past summer. Bears were not on the area, but there is reason to believe bears will eventually find their way into the refuge.

E. Hawks, Eagles, Owls, Crows, Ravens and Magpies.

Red-tailed, broad-winged, sparrow and marsh hawks have been observed. Great horned owls are permanent residents. Crows are common throughout the refuge. One snowy owl was sighted in December.

F. Other Birds.

An incomplete bird list appears in the appears in the appendix. Development of the refuge Bird List has been dependant upon refuge personnel observations. It is anticipated that visiting ornithology groups will be able to provide additional data.

G. Fish

Northern pike, suckers and red-horse make spawning runs up the St. Francis annually. Carp are abundant in the St. Francis River and all

the major water areas on the refuge. This includes; Mud Lake, Rice Lake, Lake Josephine, Bergerson Slough and Johnson Slough.

State Game Wardens have in the past removed northern pike from Mud lake and Lake Josephine as a fish rescue operation. Two hundred northerns were removed from Lake Josephine in December this year. No fish were removed from Mud Lake.

H. Reptiles.

Painted, Blanding's and snapping turtles are common on the refuge. Snapping turtles are trapped to some extent but it is unknown just how many are taken each year.

I. Disease.

None to report.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development.

Seven former farm sites were renovated by contract bulldozing during November at a cost of $985. This involved site cleanup, burning of trash and burying of foundations and concrete slabs. These sites will be seeded to permanent wildlife cover in 1967.

There are an additional 39 farm sites from which the buildings have been sold. Twenty-five of these sites are so located as to require renovation in 1967.

Five bid solicitations for sale of surplus buildings were held in 1966. Of the 159 structures put up for sale, 132 were sold for a total bid price of $20,481.49. Amounts received varied from $1.00 for an "outhouse" to $3,500 for a relatively new, three bedroom house. The remaining 27 buildings were surveyed and burned because of their unsightiness and low value.

The removal of electrical power and telephone lines has been coordinated with the Anoka Electric Co-operative and local telephone companies. Arrangements have been made with Bell Telephone Company to install an underground cable to service the future sites of the Refuge Headquarters.

Representatives of the Division of Engineering and the Refuge Manager spent a considerable amount of effort negotating a contract with the Sherburne County Highway Department for the County Road 5 project. This job involves the regrading of 6.3 miles of Co. Rd. 5 through the

refuge. The Bureau contribution ($50,000) consists of raising and widening the road through the low elevations so as to form a dike to impound water. Suitable size culverts are to be installed so that control structures can be added on the upstream side as soon as practical. This combination road and dike will be constructed in the 1967 work season.

B. Planting.

1. Aquatic and Mash Plants. None this year.

2. Trees and Shrubs. A three row windbreak of 800 Norway Pines was established on Cropland Unit A-1 (Burdette Tract). An eroded gully on this farm unit was planted with 600 willow cuttings. A small sandy knoll on the Richard Sproessig (23) tract was experimentally planted with 100 white pine.

3. Upland Herbaceous Plants. None this year.

4. Cultivated Crops. Four cropland units totaling 97 acres were laid out in ten rod strips in 1966. Alternate strips were planted to corn in the spring and fall rye in September. Farming techniques were based on conservation practices recommended by the County Agent, the Soil Conservation Service and proven practices by local farmers. Substantial amounts (300 #/ac.) of commercial fertilizer were used to start the corn and a side dressing of 70 pounds of nitrogen was used. Yields were excellent (50-60 bushels per acre) considering the quality of the cropland. The refuge share of corn (10.2 ac.) was left standing in the field and is being utilized by deer and squirrels. Waterfowl will not be able to utilize croplands until closure of a portion of the refuge is established in 1967. The rye plantings (48.5 ac.) are utilized as fall and spring browse and the harvested grain is to be exchanged for an equal value of corn.

C. Collections and Receipts.

Nothing to report this year.

D. Control of Vegetation.

Chemicals were acquired and patrol instituted in anticipation of a weed problem in 1966. All previous problem areas for leafy spurge werechecked out and only one stem was found. Several varieties of thistle are present but of a minor nature. Several patches of buttercup (Rannunculus acris) are present in the upper basin of the Santiago Swamp. The County Weed Inspector expressed concern about this situation but upon field checking, it was determined that the patch did not warrant spraying in 1966.

E. Planned Burning.

Nothing to report.

F. Fire.

There were five fires within the boundaries of the Sherburne Refuge in 1966, only one of which occurred on lands controlled by the Bureau. All of the fires except the Nelson house were extinguished by Sand Dunes Forest Ranger Brian Garvey. Refuge personnel participated in the suppression of the October 30, 1966 fire.

Date	Tract	Acres Burned	Type Burned	Suppression By	Damage
4/22/66	169 & 172	25	Brush & Swamp	M.F.S.	$25/Trees
5/19/66	263 & 264	15	Brush & Grass	M.F.S.	Negligible
9/22/66	160	0	House Damaged	Prin.Fire Dept.	Negligible
10/8/66	214	.1	Brush	M.F.S.	Negligible
10/30/66	13	30	Brush & Timber	M.F.S. & Zimm. Fire Dept.	Negligible

The refuge will need to be equipped with fire suppression equipment in the near future. We are fortuante to receive the cooperation of District Forest Ranger Brian Garvey and neighboring fire departments.

Preliminary plans have been made to obtain blanket protection for fires through the Princeton Fire Department.

IV. RESOURCE MANAGEMENT

A. Grazing.

None to date.

B. Haying.

None to date but some haying will be a necessary part of normal crop rotation.

C. Fur Harvest.

The refuge area is actively worked by trappers from a wide area. In as much as there was no closed area in 1966, the trapping was not under refuge control. Species reported taken include muskrats, weasel, mink,

red fox, raccoon and beaver. Trapping permits will be required in the posted refuge area in 1967.

D. Timber Removal.

Two special Use Permits were issued in 1966 covering the management and harvest of Christmas trees. Nan Conifer Co. and Nelson's Tree Farms sheared and thinned trees on the McNamara, Leonard Bergerson and Sven Olaffson tracts. This resulted in the following revenue:

S.U.P.	Permittee	Trees Harvested	Revenue
Sher 1	Nan Conifer Co.	657	$30.20*
Sher 2	Nelson's Tree Farms	766	$191.50

*Cost reduced $143.50 to comply with former landowner's reservation.

The shearing operation is shown in the picture section. This type of management will control the distribution of trees for wildlife habitat and the government will receive a cash payment in the process.

E. Commercial Fishing.

Nothing to report although there are plenty of carp in the refuge streams and ponds.

F. Other Uses.

Nothing to report.

V. FIELD INVESTIGATIONS OR APPLIED RESEARCH

A. Progress Report.

A Resource Inventory System designed for use in the National Wildlife Refuge System and developed through the efforts of Staff Specialists Crozier and Aultfather of the Regional Office, was field tested and put to practical use on the Sherburne Refuge.

Basically, the system involves cover mapping the entire refuge complex using aerial photographs and standard cover mapping techniques. The breakdown of the land classifications follows those used for other types of refuge reports. Once the field information is obtained, acreages are computed from dot grid counts. This data is then entered on a Royal McBee Punch Card especially designed for use with the study. This phase of the study provides the refuge with a very detailed and accurate breakdown of cover types and physical facilities.

From the inventory section, it is possible to complete the reverse side of the punch card which is geared to show the operation and maintenance load. Future planning of refuge development is also shown on this side of the card as are needed soil and moisture and economic use programs. O & M and complete development schedules are all cost coded to provide assistance in completeing the budget.

Field work on the Resource Inventory system was started in late June, and the complete refuge, 31,500 acres, was cover mapped by the end of September. Our two students, Csaba(Chuck) Bikfalvy and John Troolin, devoted most of their time to the cover mapping project. This was the initial stage of the study. Mr. Ralph Fries arrived at Sherburne for a ten day stay in January 1967, to provide us with assistance in completing the development section of the study. Through his help the total program was completed for the refuge in ten days.

The project has proven to be extremely valuable. The inventory not only shows what the refuge has at present, but what it will have in the future and where it will be. Though a few "bugs" have turned up, this method of inventory has much potential for all people concerned with resource management. Needless to say, the annual budget problems were made much simpler through the accuracy of this system.

A sample punch card is appended.

VI. PUBLIC RELATIONS

A. Recreational Uses.

The general area is becoming better known to the public through personal appearances, printed articles and radio programs. Increased use has been made of the refuge for nature study, sightseeing, boating, fishing, hunting, picnicing, wild parties, beer drinking and vandalism. The refuge is ideally situated for high quality, nature oriented recreation but unfortunately, there is a lot of improper use which comes with it. To be sure, this is a small minority, but it certainly makes things difficult for refuge personnel.

The breakdown of public use figures is shown on NR-6. Due to the different method of computing Visitor Days, instituted in 1966, a comparison must be made with last year. It is estimated that visitor use increased three-fold over 1965.

B. Refuge Visitors.

The temporary refuge office is located in downtown Princeton, on U.S. Highway 169. There is a continual stream of visitors inquiring about employment opportunities, sale of surplus buildings, applicants for farming permits, conservation information, refuge progress etc. The

office location does facilitate acquisition efforts as landowners find it convenient to drop in and visit. Efforts are made to help them with questions, appointments, signing papers, moving expense claims and sometimes just lending a sympathetic ear. Since there is a restaurant next door, refuge personnel are frequently in the position of buying coffee for visitors.

The following individuals are frequent callers at the refuge office:

Name	Title	Organization	Address
Gordon "Bill" Jensen	Appraiser	B.S.F. & W.	Mpls.
Gene Sullivan	Area Game Mgr.	M.C.D.	Buffalo
John Kirkvold	Area Forester	M.C.D.	Cambridge
Phil Veith	Ass't Area Forester	M.C.D.	Cambridge
Brian Garvey	Dist. Forester	M.C.D.	Zimmerman
Wayne Forsythe	Game Warden	M.C.D.	Big Lake
Dick Simmons	Game Warden	M.C.D.	Princeton
Geo. "Pat" Anderson	Co. Commissioner	Sher. Co.	Princeton
John Thompson	Co. Commissioner	Sher. Co.	Princeton

Other official visitors are found on the following list:

Date	Name	Title or Organization	Address	Purp of Visit
1/13/66	Bob Turk	Sportscaster	Sauk Rapids	discuss radio show
3/17/66	Henry Wilson	S.C.S.	St. Cloud	Toured Refuge
3/21/66	Dick Rodgers	Arrowwood N.W.R.	Kensal, ND	Toured Refuge
3/21/67	Mr&Mrs. G. Larson	U.S.F.W.S.	Mpls.	Toured Refuge
4/19/66	F.C. Gillett	Division Chief	Wash, D.C.	Inspection
4/19/66	Frank Martin	Ass't Reg. Supv.	Mpls.	Inspection
4/26/66	Ed Gerchy	St. Cloud Times	St. Cloud	Tour
4/27/66	Harry Crandall	Div. of Refuges	Wash, D.C.	Master Planning
4/27/66	Ed Crozier	Div. of Refuges	Mpls.	" "
4/29/66	Dave Swenson	G.M.A.	Fergus Falls	Tour
4/30/66	Dr. Henry Hanson	Schl of Forestry,UofM	Mpls.	Tour
4/30/66	20 Boy Scouts	with Dr. Hanson	Mpls.	Tour
5/5/66	Donald Peterson	Prof.-State College	St. Cloud	Tour
5/13/66	Ron Erickson	Area Game Mgr.	Forest Lake	Tour
6/2/66	Ed Crozier	Regional Office	Mpls.	Master Planning
6/2/66	Bill Aultfather	Regional Office	Mpls.	Master Planning
6/3/66	Chuck Dare	Sher. Co. Star News	Elk River	Tour
6/3/66	Larry Dare	Sher. Co. Star News	Elk River	Tour
6/3/66	Glen Hage	Princeton Union	Princeton	Tour
6/30/66	Ron Erickson	Area Biologist	Forest Lake	Coordinate Activity
6/30/66	Gene Sullivan	Area Biologist	Buffalo	" "
7/14/66	Dr. Bill Green	Upper Miss. Refuge		Tour
7/14/66	Mr&Mrs. James Fall		Davenport, Iowa	Tour
7/28/66	Dr. Max Partch & Students	State College	St. Cloud	ecological Tour

Date	Name	Title or Organization	Address	Purp of Visit
8/1/66	Jack O'Konek	Pres. Minn. Cons. Fed.	Hill City	Tour
8/1/66	Leonard Bullard	Area Soil Cons.	St. Cloud	)Reviewal of soil
8/1/66	John McDermid	Plant Matls Spec.	Bismark, ND	conservation
8/1/66	Clayton Hart	W.U.C.	St. Cloud	)procedures
8/5/66	Jim Hubert	Wetlands Mgr.	Benson	Tour
8/5/66	Jack Womble	Asst. Wetlands Mgr.	Benson	Tour
8/10/66	Jack O'Konek	Pres. Minn. Cons. Fed.	Hill City	coordinate cons. appearance
8/17/66	Frank Martin	Asst. Reg. Ref. Supv.	Mpls.	Tour & Review of policies
9/9/66	Society of American Foresters		Midwest	Tour
9/10/66	Mr&Mrs. Ed Fromett		Waubay, SD	Tour
10/15/66	Howard Woon	Job Corp Corrdinator	Mpls.	Tour
10/17/66	Henry Wilson	S.C.S.(retired)	St. Cloud	Boy Scout project discussion
10/18/66	Lou Swenson	Wetlands Mgr.	Fergus Falls	Tour
11/1/66	Bill Aultfather	Reg. Forester	R.O.	Resource Inventory & Fire Problems
11/15/66	Clair Rollings	S.M. Specialist	R.O.	Discussed Refuge Farming Program
11/23/66	Sid Rommel	Minn. Cons. Dept.	St. Paul)	Appraisal of
11/23/66	Harold Simon	Minn. Cons. Dept.	St. Paul)	State Land

C. Refuge Participation.

Refuge personnel made a number of appearances (listed below) to groups within a fifty mile radius to tell the refuge story. Most of these were on evening time donated by the employee. It is indeed a blessing to have good quality projection equipment to assist in this task.

Date	Organization	Town	Attendence	Program
1/11/66	Sher. Co. Consv. Club	Zimmerman	35	Talk
1/12/66	Commercial Club	Big Lake	50	Talk & Slides
2/1/66	Voc-Tech High Schl.(adult)	St. Cloud	25	Talk & Slides
2/2/66	Sher. Co. Rural Devlpmt. Comm.	Becker	15	Talk
2/22/66	Tri-Co. Sporstmens Club	Princeton	35	Movies
3/14/66	Sporstsmens Club	Sauk Rapids	50	Talk & Movies
3/15/66	Tri-Co. Consv. Club	Princeton	35	Movies
3/21/66	Princeton H.S.(Wildlife Week)	Princeton	120	Talk & Slides
3/28/66	Elk River H.S.(Wildlife Week)	Elk River	125	Talk & Slides
3/29/66	Sportsmen Club	Foley	40	Talk & Slides
4/4/66	Chamber of Commerce	Sauk Rapids	50	Talk & Movies
4/5/66	Sportsmen Club	Rice	40	Talk & Slides
4/11/66	Santiago Rural Sportsmen Club	Santiago	60	Talk & Movies
4/14/66	Community Club	Blue Hill	30	Talk & Movies
4/19/66	Tri-Co. Sportsmen Club	Princeton	35	Talk & Movies

Date	Organization	Town	Attendence	Program
4/21/66	Clear Lake Sportsmen Club	Clear Lake	40	Talk & Slides
5/2/66	Lions Club	Princeton	30	Talk
5/6/66	Lake Chain Sportsmen Club	Clear Lake	30	Talk & Slides
5/9/66	Santiago Sportsmen Club	Santiago	60	Talk & Movies
5/17/66	Tri-Co. Sportsmen Club	Princeton	15	Movies
6/6/66	Lions Club	Princeton	30	Movies
6/20/66	Lions Club	Princeton	30	Movies
6/21/66	Tri-Co. Sportsmen Club	Princeton	10	Movies
6/23/66	Sportsman's Club	Robbinsdale	40	Talk & Slides
8/8/66	Goose Hunting Club	St. Paul	20	Talk & Slides
8/16/66	Ketch Olson Memorial Trapsht.	Princeton	35	Chairman
8/29/66	State Hosp. Sportsmen Club	Cambridge	60	Talk & Movies
9/16/66	Minn. Consv. Fed. Convention	Hill City	100	Talk
9/26/66	Sportsmen Club	Pease	35	Talk & Slides
9/27/66	Tri-Co. Consv. Club	Princeton	40	Talk
10/11/66	Conservation Club	St. Cloud	100	Talk & Slides
10/18/66	Tri-Co. Consv. Club	Princeton	35	Movies & Slides
10/22/66	H.S. Biology Class	Anoka	60	Talk & Tour
11/1/66	Area Science Teachers	St. Cloud	50	Talk & Slides
11/3/66	Sertoma Club	St. Cloud	50	Talk & Slides
11/7/66	Sportsmen Club	Cokato	20	Talk & Slides
11/17/66	Chamber of Commerce	Elk River	70	Slides & Talk
12/3/66	Minn. Conservation Fed.	St. Cloud	100	Talk

Three 15 minute radio programs were "taped" for transmission over station WVAL Sauk Rapids. One was in April and two in July.

In October Mr. Schranck and Mr. Carlsen were interviewed over KBOM, St. Cloud. This was an hour long, question and answer type program.

On December 30, 1966 a framed, colored picture of the St. Francis River Valley was presented to outgoing Governor Karl F. Rolvaag as a momento of his participation in the establishment of the Sherburne Refuge.

Assistant Manager Schranck is an active member of the Princeton Junior Chamber of Commerce. Mr. Carlsen is a member of the Princeton Lions Club and on the Board of Directors of the Princeton Chamber of Commerce.

Mr. Schranck and Mr. Carlsen have attended all regular meetings of the Minnesota Chapter of the Wildlife Society in St. Paul. They also hold memberships in four local sportsmens clubs. Mr. Carlsen is Program Chairman of the Tri-County Conservation Club of Princeton.

D. Hunting.

The refuge vicinity has a past history of heavy utilization for the hunting of waterfowl, pheasants, ruffed grouse,rabbits, squirrels, fox and white-tailed deer. This was certainly true in 1966 although pheasants, ruffed grouse and rabbits were in short supply.

Opening weekend of waterfowl season is one of hectic activity with five to ten times the optimum number of hunters being present. The Rice Lake Public Access area alone had 38 carloads and the site was designed for only seven cars. There were six other access points to the lake each of which had from four to twelve carloads. Although the hunters are well equipped, their manners and sportsmanlike conduct were left at home. Since every bird that flies within 200 yards is blasted at, the area is soon "burned out". Subsequent activity is sufficient to keep any substantial number of birds from utilizing the area until freeze-up.

Between the private lands, unposted refuge lands and the State Conservation Department lands, it is conservatively estimated that there were 185 carloads or approximately 550 hunters on the 950 acres of duck hunting habitat.

The following report was prepared following the opening weekend of duck season.

> Hunters were out enmass for the opening of duck season on October 8, 1966. The weather was warm (75-80) and sunny. Most of the wood ducks and blue-winged teal had migrated but the mallard, green-winged teal and scaup numbers were building and small numbers of pintail, baldpate and ringneck were present.
>
> Flocks of Snow and Blue geese were migrating over from NE to SW all weekend. At least 17 large flocks were observed on 10/8 and eight on 10/9. None stopped but one hunter bagged a Snow goose on Mud Lake which dropped out of a large flock to land on the lake.
>
> Car counts at popular access points were as follows:

Place	Saturday 10/8	Sunday 10/9
Rice Lake Public Access	38	22
No end-Rice Lake	12	10
Ken Olson Tract(West Side Rice Lake)	7	5
Misc.-Rice Lake	8	5
Lake Josephine	11	3
Mud Lake Public Access	21	11
East Side Mud Lake	8	4
Misc.-Mud Lake	7	8
Bergerson Slough	15	9
Long Pond	9	6
Miscellaneous	39	25
TOTAL	175	108

> Most hunters checked had a mallard or two and usually a mixed bag of teal with green-wings predominating. Scaup and ringneck composed

only about 15% of the toatl and only five wood cucks were checked out. Some hunters filled out on coots (10 each) and many more could have done so if they had wished to expend their shells.

Opening hour was reasonably well observed although some hunters on Mud Lake started shortly after 11:30 AM. On Rice Lake and vicinity, it was almost 12 noon before shots were fired. After the opening barrage of 30 minutes, the situation settled down to a steady banging at high-flying ducks in the blue-bird weather.

There was a considerable amount of late shooting. Closing hour was 6:41 PM,CDT. Efforts by two refuge personnel and a State Warden were ineffective in apprehending the violators.

The evening rush at the boat landings was so bad that about all the wardens could do was to spot check for licenses, stamps and bagged ducks. One unplugged gun was apprehended and processed thru J.P. court in Elk River. While more violations occurred, it was impossible to apprehend them with the personnel available and under the adverse circumstances.

Grey and fox squirrels were plentiful and received steady attention from hunters. Nineteen squirrels were taken from one tree on the Mason Tract.

The entire Sherburne Refuge was open to deer hunting in accordance with Minnesota regulations described for Zone 7. The season was open for five days and limited to shot guns with single slugs.

The November 11th storm added an additional four inches of snow to the two that already covered the ground, and temperatures dropped to a -8 degrees below zero for the sunrise opening of the season November 12. The season ran from November 12 through the 16th, and with bright clear days and warming temperatures, weather was excellent for hunting.

Pre-season deer sign was heavy throughout the entire refuge area, and good hunting success was anticipated. Road checks during the first day showed that 80-90- cars were on the area for hunting purposes. Since each car averaged slightly more than two hunters, there were an estimated 175 hunters. This is substantial increase over the 50 hunters last year. Distribution of hunters seemed good and there did not seem to be too many from either the safety or desirability standpoint. Hunting success ran low despite the good deer population. An exact count of the number of deer taken was impossible without a check station, but rough field count suggest that nearly 40 white-tailed deer were taken. Hunter success was probably close to 20%.

Hunters continued to work the refuge area after the opening week-end, but hunter success showed no sign of improving. Warming temperatures rising into the high 40s resulted in nearly a complete snow melt prior to the end of the season on November 16.

One deer of special interest was taken just off the refuge. A spike buck mule deer was reported killed to the local State Game Warden. This is the first mule deer reported in this area to date. Four or five years ago, a mule deer was reportedly killed some 20 miles north of the refuge. With the years to come, we can expect to see more of these deer taken on the refuge.

Recommendations for future years are as follows:

1. Rifles should be used when acquisition is relatively complete to reduce crippling losses and to keep the deer herd from expanding too rapidly.
2. Checking stations be established.
3. That a free permit system be instituted for hunting on land under Bureau control when the number of hunters approaches 250 per day. We want these hunters to have a "quality experience" on the Sherburne Refuge.

E. Violations.

This area is heavily populated and has numerous opportunities for violations and many undoubtedly occur. Apprehension is a difficult matter as the populace is conditioned to covering up a violation. In duck hunting, the terrain and vegetation limit enforcement activity. As closure of portions of the refuge is effected, conditions will be more in favor of enforcement personnel.

The following two violators were apprehended.

Date	Name	Address	Violation	Fine
10/2/66	Al De Freitas	Rt. 1 Princeton	Illegal Trapping	$25 + costs
10/8/66	Duane Reynolds	Mpls.	Unplugged shotgun	$25 + costs

F. Safety.

Monthly safety meetings have been held since the staff has increased. They include a discussion of hazardous conditions and usually include a special speaker or safety movie.

A list of Safety Meetings follows:

Date	Topic	Special Event
4/11/66	Brush Fires	Dist. Forest Ranger, Brian Garvey
6/30/66	Safety Hazards	Movie "Safety Everywhere, All the time"
7/8/66	Work Hazards	Movie "The Gamblers"
8/15/66	Defensive Driving	Movie "Anatomy of an Accident"
9/19/66	Driving Safety	Movie "Driving Under Adverse Conditions"
10/24/66	Fire Prevention	Discussion
11/14/66	Fire Prevention	Movie "Fire Prevention Demonstration"
12/19/66	Winter Driving Hazards	Discussion

As of December 31, 1966, this station has operated 443 days without a lost time accident.

VII. Other Items

A. Items of Interest.

1. Personnel.

Mr. Gary F. Steffes of St. Cloud, Minnesota served as Clerk-typist from March 1, to September 23, 1966 when he resigned to accept employment in his home town. Mrs. Marlene Helmen EOD as Clerk-typist on September 26, 1966.

Barnet W. Schranck EOD June 20, 1966 as Assistant Refuge Manager. "Barney" has a B.S. from Iowa State University and a M.S. in Wildlife Management from the University of Missouri. He has had three summer's experience as Student Assistant on Souris Loop refuges in North Dakota. Besides being a most welcome and useful member of the refuge staff, Barney has brightened the life of local young damsels.

Two Student Assistants were employed during the summer months for cover type mapping and resource inventory work. Csaba C."Chuck" Bikfalvy is a graduate student in Wildlife Management at the University of Michighan. Mr. John C. Troolin is a graduate Forester of the University of Minnesota and is presently in the U.S. Air Force. John also inventoried the Christmas tree plantations on the refuge for future management.

Milton C. Elveru EOD on November 1, 1966 as a temporary intermittent laborer to facilitate disposal of surplus buildings and protect government property. Milt is a former landowner still residing on the refuge under a free-use reservation. His presence and patrol efforts are a great assistance.

2. Acquisition

As of December 31, 1966 Appraiser Bill Jensen had obtained options on 119 tracts totalling 12,744.16 acres or 41% of the 31,000 acre refuge. This is an increase of 5,572 acres over last year.

The map and graph which follow illustrate the acquisition situation. It is felt that excellent progress has been made in approximately 19 months since this refuge was approved. Many landowners have radically modified their attitude to the point of wanting to sell, requesting farming permits and employment. It is also strange that only one landowner has shown an interest in the life-use reservation. All the others have preferred to sell out and move.

3. Credits

Section I, II, V and N.R. forms were prepared by Assistant Manager Schranck and the balance by Manager Carlsen.

4. Photographs

The two 8 x 10 colored prints of the St. Francis River valley (Sher 128 & 129) were taken on August 3, 1966 by Regional Pilot-Biologist John Winship. The Two "old time" hunting pictures (Sher 109 & 110) are from the personal collection of Sven Olson of Princeton. The original tree planting photo (Sher 107) is the property of Archie Larson of Elk River. Student Assistant Chuck Bikfalvy took Sher 117 to 122. The balance were taken by Mr. Schranck and Mr. Carlsen.

5. Conceptual Plan

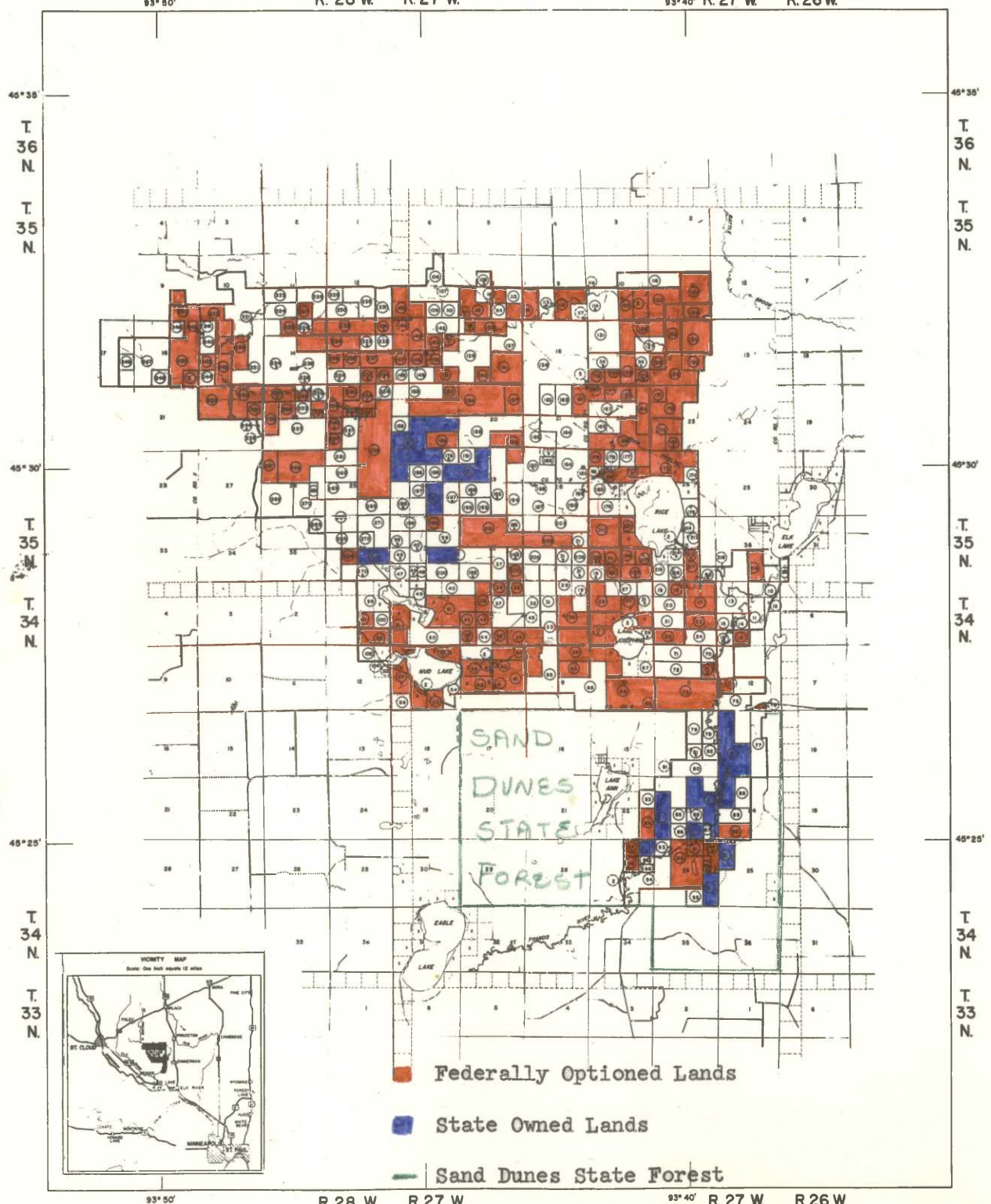
The Sherburne Refuge Conceptual Plan was prepared by Staff Specialist Ed S. Crozier of the Minneapolis Regional Office. A copy is attached.

SHERBURNE NATIONAL WILDLIFE REFUGE

SHERBURNE COUNTY, MINNESOTA

UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE



COMPILED IN THE BRANCH OF ENGINEERING
FROM AERIAL PHOTOGRAPHS AND SURVEYS
BY THE U.S.G.S.

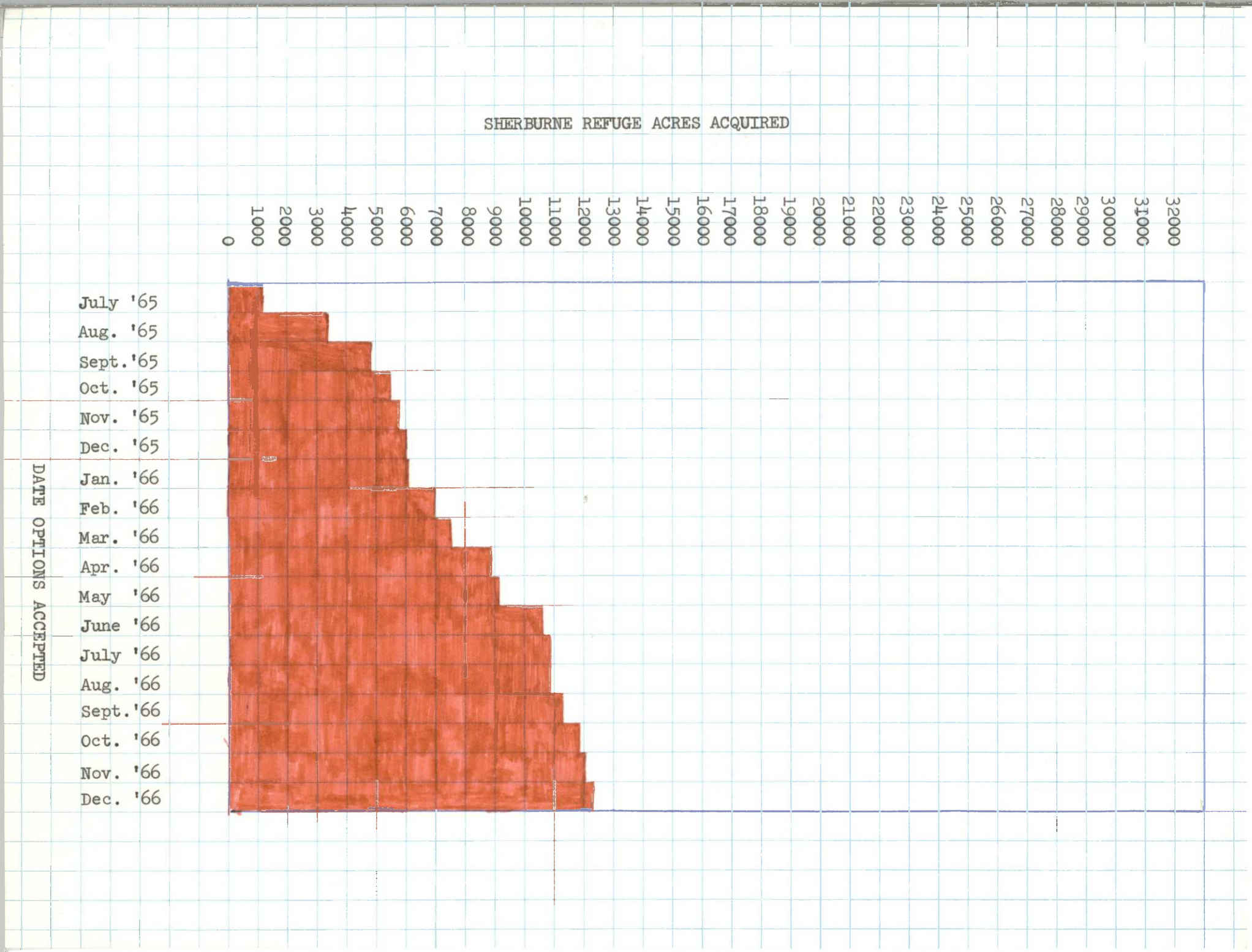
MINNEAPOLIS, MINNESOTA JAN, 1963

FOURTH PRINCIPAL MERIDIAN

Scale

TOWNSHIP DIAGRAM

MEAN DECLINATION 1960


SHERBURNE REFUGE ACRES ACQUIRED
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000
13000
14000
15000
16000
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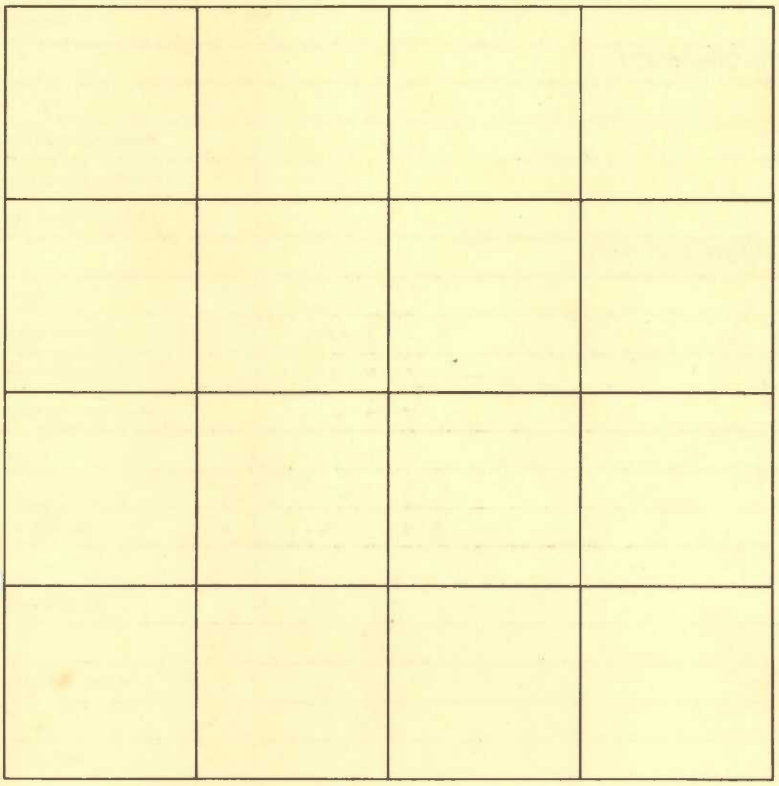
28000
29000
30000
31000
32000
DATE OPTIONS ACCEPTED
July '65
Aug. '65
Sept. '65
Oct. '65
Nov. '65
Dec. '65
Jan. '66
Feb. '66
Mar. '66
Apr. '66
May '66
June '66
July '66
Aug. '66
Sept. '66
Oct. '66
Nov. '66
Dec. '66

1 2 3 4 PRIORITY | 1 7 4 2 1 | 7 4 2 1 | 7 4 2 1 S | 1 7 4 2 1 | 7 4 2 1 | 7 4 2 1 E | 2 1 7 4 2 1 | S W S W | 7 4 2 1

TOWNSHIP _____ RANGE _____ SECTION _____ QTR. _____ UNIT _____

REFUGE _____ APPRAISED BY _____ DATE _____



SCALE: _____ INCHES = 1 MILE

TOTAL AREA _____ ACRES

MAP. NO.	FIELD NOTES

TYPE	MAP NUMBERS	QUANT. (ACRES)
SEASONALLY FLOODED		
MEADOWS		
SHALLOW MARSH		
DEEP MARSH		
DITCHES		
STREAMS		
RIVERS		
PONDS		
LAKES		
SHRUB SWAMPS		
WOODED SWAMPS		
BOGS		
CROPLAND		
HAYLAND		
GRASSLAND		
MUD FLATS		
SAND		
ROCK OUTCROP		
CONIFERS		
HARDWOODS		
MIXED FOREST		
PLANTATION		
BRUSH		
RECREATION		
RESERVED		
ROADS & TRAILS		
BLDGS. & STRUCTURES		
WATER FACILITIES		
FENCING & POSTING		

Y81773X

1 2 3 4 5 6 WATER FACILITIES | 1 2 3 4 5 6 SERVICE FACILITIES | 1 2 3 4 5 6 BIOLOGICAL DEV. | 1 2 3 4 5 6 RECREATION DEV. | Y81773X

COST CODE	UNIT	OPERATION AND MAINTENANCE (MAP NUMBER & NAME OF EXISTING JOB)	TOTAL
10	MILES/NO.		
11	MILES		
12	MILES		
13	SQ.FT./NO.		
14	ACRES		
15	ACRES		
16	ACRES		
17	ACRES		
18	ACRES		

	PROGRAM ITEM	DEVELOPMENT (MAP NUMBER & PROJECT DESCRIPTION)	FUTURE TOTAL
WATER FACILITIES	CONTROL STRUCTURES		
	DIKES & LEVEES		
	DITCHES		
	OTHER		
SERVICE FACILITIES	ROADS & TRAILS		
	FENCING & POSTING		
	BUILDINGS		
	STRUCTURES & UTIL.		
BIOLOGICAL DEVELOPMENT	CROPLAND		
	"		
	TIMBERLAND		
	"		
	GRASSLAND		
	"		
	MARSH & WATER		
	"		
	OTHER LANDS		
	"		
REC. DEV.	RECREATION		
	"		
	"		
POPULATION MANAGEMENT	ANIMAL MANIPULATION		
	ENDANGERED SPECIES		
	FISHERIES MGT.		
	OTHER		

SOIL AND MOISTURE

27	SOIL STABILIZATION		
28	WATER MANAGEMENT		
29	PROGRAM FACILITIES		
30	O & M		

ECONOMIC USE

	FARMING		
	TIMBER		
	GRAZING		
	HAYING		
	FUR HARVEST		
	OTHER		

SIGNATURE PAGE

Submitted by:

J C Carlsen
(Signature)
John C. Carlsen

Refuge Manager
Title

Date: 2/27/67

Approved, Regional Office:

Date: 3/2/67

Frank R Martin
(Signature)

Asst
Regional Refuge Supervisor

SHERBURNE NATIONAL WILDLIFE REFUGE

Bird List - 1966

Compiled by B. W. Schranck, Ass't Refuge Manager

Species	Species
Common Loon	Wilson's Phalarope
Horned Grebe	Northern Phalarope
Eared Grebe	Ring-billed Gull
Pied-billed Grebe	Common Tern
Great Blue Heron	Black Tern
Green Heron	Mourning Dove
Black-crowned Night Heron	Yellow-billed Cuckoo
Least Bittern	Great Horned Owl
American Bittern	Snowy Owl
Whistling Swan	Short-eared Owl
Canada Goose (2 subspecies)	Common Nighthawk
Snow Goose	Chimney Swift
Blue Goose	Ruby-throated Hummingbird
Mallard	Belted Kingfisher
Gadwall	Yellow-shafted Flicker
Pintail	Pileated Woodpecker
Green-winged Teal	Red-headed Woodpecker
Blue-winged Teal	Yellow-bellied Sapsucker
American Pidgeon (Baldpate)	Hairy Woodpecker
Shoveler	Downy Woodpecker
Wood Duck	Eastern Kingbird
Redhead	Western Kingbird
Ring-necked Duck	Great Crested Flycatcher
Lesser Scaup	Tree swallow
Common Goldeneye	Barn Swallow
Bufflehead	Cliff Swallow
Ruddy Duck	Purple Martin
Hooded Merganser	Blue Jay
Red-breasted Merganser	Common Crow
Turkey Vulture	Black-capped Chickadee
Red-tailed Hawk	Whit-breasted Nuthatch
Broad-winged Hawk	Brown Creeper
Marsh Hawk	House Wren
Sparrow Hawk	Long-billed Marsh Wren
Ruffled Grouse	Catbird
Ring-necked Pheasant	Brown Thrasher
Sora	Robin
American Coot	Grey-cheeked Thrush

Killdeer
Common Snipe
Spotted Sandpiper
Greater Yellowlegs
Yellow Warbler
Magnolia Warbler
Myrtle Warbler
Yellowthroat
House Sparrow
Bobolink
Eastern Meadowlark
Yellowheaded Blackbird
Red-winged Blackbird
Baltimore Oriole
Common Grackle
Brown-headed Cowbird
Scarlet Tanager

Eastern Bluebird
Cedar Waxwing
Loggerhead Shrike
Starling
Indigo Bunting
American Goldfinch
Rufous-sided Towhee
Grasshopper Sparrow
Slate-colored Junco
Tree Sparrow
Chipping Sparrow
Harris' Sparrow
White-crowned Sparrow
White-throated Sparrow
Fox Sparrow
Snow Bunting

SHERBURNE NATIONAL WILDLIFE REFUGE

Interim List of Aquatic Plants

Compiled by B. W. Schranck, Ass't Refuge Manager

Scirpus validus Softstem bulrush
Scirpus acutus Hardstem bulrush
Scirpus fluviatilis River bulrush
Ceratophyllum demorsum Coontail
Nuphar spp. Yellow water lily
Nympheaea spp. White water lily
Potamogeton zosteriformis Flat-stemmed pondweed
Potamogeton natans Floating-leaf pondweed
Potamogeton pectinatus Sago pondweed
Potamogeton amplifolius Large-leaf pondweed
Najas flexilis Bushy pondweed
Sagittaria spp. Arrowhead
Zizania aquatics Wild rice
Eleocharis spp. Spike rush
Typha latifolia Common cattail
Typha angustifolia Narrow-leafed cattail
Myriophyllum Water milfoil
Fluminea festucacea Whitetop
Sparganium Burweed
Equisetum Horsetail
Lemna minor Lesser duckweed
Lemna trisulca Star duckweed
Phragmities Cane
Anacharis canadensis Waterweed
Phalan's arundinacea Reed canary grass
Beckmania syzigachne Slough grass
Spartina pectinata Cord grass
Cyperaceae sedge (many species)

SHERBURNE NATIONAL WILDLIFE REFUGE

Interim List of Trees and Shrubs

Compiled by John C. Troolin, Station Asst.

Acer negundo Boxelder
Acer rubrum Red Maple
Acer saccharinum Silver maple
Amelanchier spp. Serviceberry
Betula alleghaniensis Yellow birch
Betula papyrifera Paper birch
Betula pumila Bog birch
Cormus racemosa Panicled dogwood
Corylus americana American hazel
Crataegus spp. Hawthorne
Fraxinus nigra Black Ash
Fraxinus pennsylvanica Green ash
Juniperus communis Juniper
Juniperus virginiana Eastern Red cedar
Larix Laricina Tamarack
Ostrya virginiana Ironwood
Picea glauca White spruce
Picea pungens Blue spruce
Pinus banksiana Jack pine
Pinus nigra Autrian pine
Pinus resinosa Red pine
Pinum strobus White pine
Pinus sylvestris Scotch pine
Populus deltoides Cottonwood
Populus grandidertata Big tooth aspen
Populus tremuloides Quaking aspen
Prunus pennsylvanica Pin cherry
Prunus serotina Black cherry
Prunus virginiana Choke cherry
Quercus alba White oak
Quercus ellipsoidalis Northern pin oak
Quercus marrocarpa Burr oak
Quercus rubra Northern Red Oak
Rhus glabra Smooth sumac
Rhus typuia Staghorn sumac
Robinia psuedo acacia Black Locust
Salix spp. Willow
Smabucus spp. Elderberry
Thuja occidentalis Northern White cedar
Tilia americana Basswood
Toxicodendron vernix Poison sumac
Ulmus americana American Elm
Ulmus parvifalia Chinese Elm
Ulmus rubra Slippery Elm
Vuburum triolbum Highland cranberry

Sher 101 - 7/1/66 - Student Assistant John C. Troolin, a Forestry Graduate of University of Minnesota, made this office display of the conifers found on the Sherburne Refuge.

Sher 102 - 7/15/66 - Student Assistant Csaba C. "Chuck" Bikfalvy, a graduate student in Wildlife Management, participated in waterfowl censuses and aquatic vegetation surveys. The principal activity of both students was the cover-type mapping and resource inventory system.

Sher 103 - 7/20/66 - A group of Soil Conservation Service Personnel toured the refuge and made suggestions for establishment of native grasses. Left to right: Clayton Hart, W.U.C., St. Cloud, John McDurmid, Plant Materials Specialist, Bismark, N.D., Harold Poeschel, SCS State Agronomist, St. Paul, Mgr. Carlsen, Leonard Bullard, SCS Area Conservationist, St. Cloud.

Sher 104 - 7/25/66 - Dr. Max Partsch of St. Cloud State College and a group of his graduate students toured the refuge looking over possible ecological study areas.

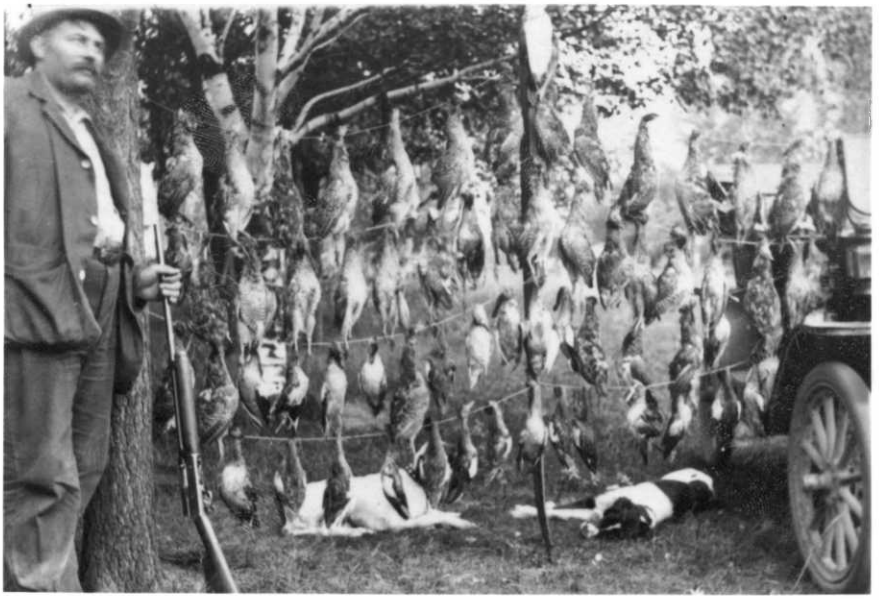
Sher 105 - 8/1/66 - The shearing crew from Nelson's Farms Inc. moves thru a Refuge Norway Pine plantation, shaping the trees for better marketability.

Sher 106 - 8/1/66 - One of the more attractive members of the shearing crew demonstrating how the process is done. There are 965 acres of Christmas Tree plantation on the refuge.

Sher 107 - 4/25/45 - Members of the Sherburne County Conservation Club planting some of the first trees on the Sand Dunes State Forest.

Sher 108 - 10/31/66 - Some of the same group of men on the same site as above showing tree growth (and ageing) which has taken place. This road is the boundary between the Refuge and the Forest. Two of the men are landowners in the refuge.

Sher 109 - About 1910± - Princeton residents "Dad" Hill and Sven Olson at there hunting camp on the south shore of Rice Lake, now located within the Sherburne Refuge.



Sher 110 - About 1910± - Sven Olson with a mixed bag of ducks and pinnated grouse from the present vicinity of the Sherburne Refuge. Pinnates were fairly common until about 1930. Mr. Olson is now 94 years old and lives in Princeton.

Sher 111 - 8/29/66 - Typical woodland habitat along the St. Francis River which flows through the Sherburne Refuge.

Sher 112 - 8/29/66 - Youngsters enjoying fishing opportunities on the Sherburne Refuge at the outlet of Elk Lake.

Sher 113 - 7/8/66 - Aerial view north along County Road 5. Plane is over "village" of Orrock. Refuge lake with Assistant Manager's residence at NE corner is located in left foreground. This road is being rebuilt (6.3 miles) in 1967 as a joint County-Refuge project into a combination road and dike.

Sher 114 - 7/8/66 - Aerial view west across sedge meadows of St. Francis River valley in north central portion of refuge. The extensive light green area will constitute one of the larger pools on the refuge after development.

Sher 115 - 7/8/66 - Aerial view west across Durgin Slough toward State Forest coniferous plantation. West boundary of refuge is at west edge of plantation.

Sher 116 - 8/3/66 - Aerial view northeast across Lake Josephine, partially drained by a ditch, toward Rice Lake in background. Both lakes have state "Public Accesses" and receive heavy usage by waterfowl hunters.

Sher 117 - 8/30/66 - Typical mixed habitat scene on the Sherburne Refuge. Upland fields, pastures and wood lots interspersed with potholes.

Sher 118 - 8/30/66 - Wood duck habitat found on Bergerson Slough.

Sher 119 - 7/15/66 - House on the Havican tract being moved. This was a better than average place and brought $1330 on sealed bids.

Sher 120 - 8/30/66 - Sames site as above after removal of house and renovation of the site by bulldozer. Over 150 buildings were sold and removed in 1966.

Sher 121 - 7/20/66 - One of the showier members of the Lily family. St. Asst. Chuck Bikfalvy made a considerable number of portraits of our native vegetation.

Sher 122 - 7/21/66 - Purple prairieclover is a common, but not abundant, native plant. There is excellent potential for re-establishment of native grasses on Sherburne Refuge.

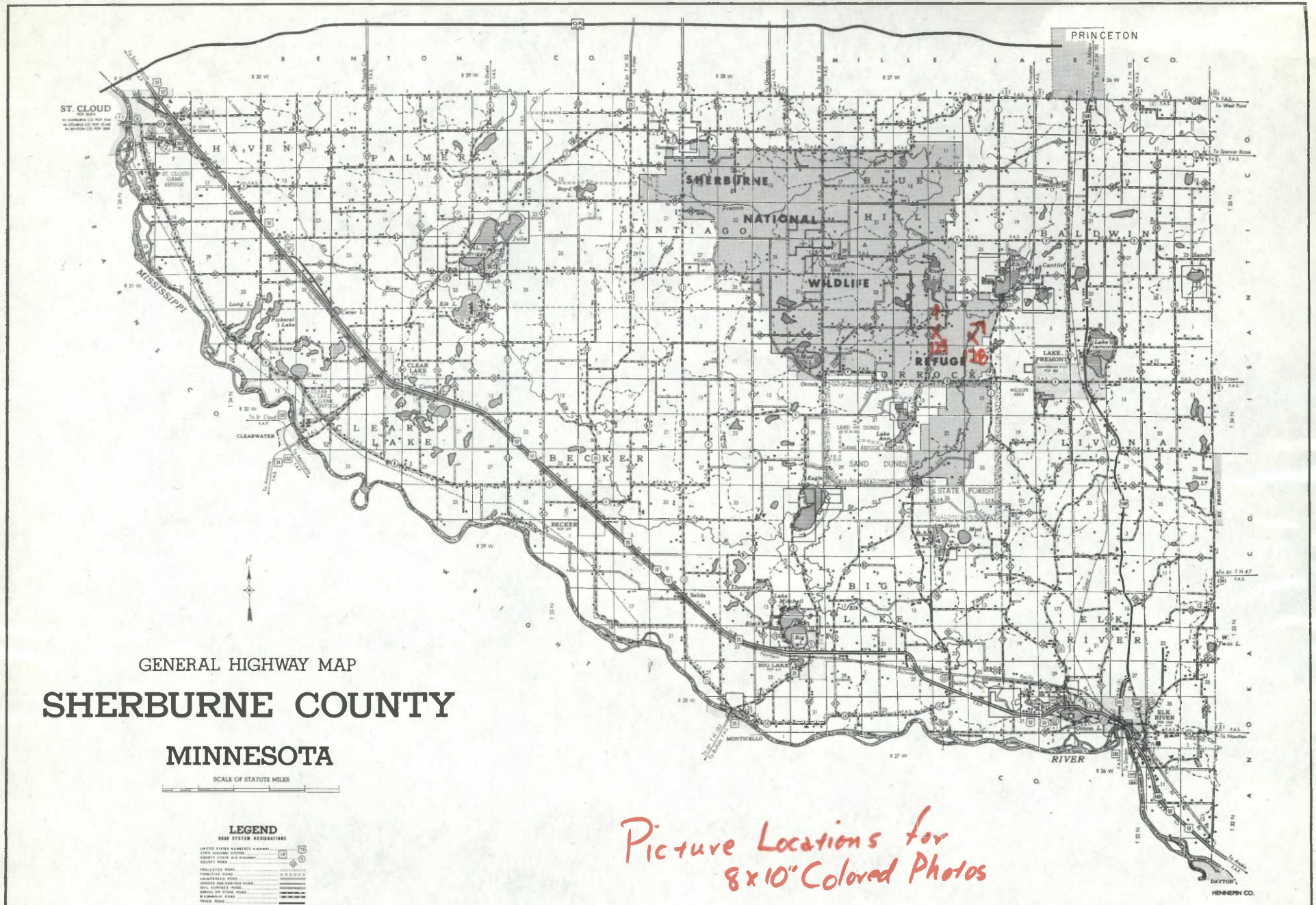
Sher 123 - 11/1/66 - Regional Forester Bill Aultfather inspected one of the wild fires on the Sherburne Refuge this fall and "demonstrated" fire control technigue.

Sher 124 - 11/8/66 - Permittee Gerry Bender with some of the corn raised on the Odell tract. Mr. Bender is a member of the S.C.D. Board, President of the Princeton School Board, and "pillar" of the community. We are fortunate to have him as a permittee.

Sher 125 - 12/14/66 - Constructing the winter holding pen on the shores of Orrock Lake. Asst. Mgr. Schranck's house in the background. Left to right: Contractor Ed Schuette, Asst. Mgr. Schranck and Patrolman Milt Elveru.

Sher 126 - 12/14/66 - Details of construction of the 32 X 64 foot pen. The sides are 1 X 2" mesh welded wire and the top is standard chicken wire. The first geese are expected in March of 1967.

Sher 128 - 8/3/66 - Valley of the St. Francis River, looking northeasterly toward Elk Lake. The refuge boundary touches the south edge of the lake. The entire bottom land between the trees will be flooded to form a nature-oriented recreation impoundment. The purplish vegetation is loosestrife (Lysimachia sp.).



GENERAL HIGHWAY MAP

SHERBURNE COUNTY

MINNESOTA

SCALE OF STATUTE MILES

LEGEND

ROAD SYSTEM DESIGNATIONS

JERRY L. SPENCER
COUNTY HIGHWAY ENGINEER

Picture Locations for
8x10" Colored Photos

Sher 129 - 8/3/66 - The St. Francis River flows through Rice Lake, (center background) which is good waterfowl habitat. A dam will be established where the road bends at the right edge of the picture to inundate the river valley and stabilize water levels in the Rice Lake.

3-1750
Form NR-1
(Rev. March 1953)

(1)

WATERFOWL

REFUGE Sherburne NWR

MONTHS OF January TO December, 19 66

(1) Species	(2) Weeks of reporting period									
	Jan.1 5	Jan.2 12	Jan.3 19	Jan.4 26	Feb.5 2	Feb.6 9	Feb.7 16	Feb.8 23	Mar.9 2	Mar.10 9
Swans:										
Whistling	NO WATERFOWL PRESENT									
Trumpeter										
Geese:										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard										
Black										
Gadwall										
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other										
Coot:										

Int. Dup. Sec., Wash., D.C. 37944

3-1750
Form NR-1
(Rev. March 1953)

(2)

WATERFOWL

REFUGE Sherburne NWR

MONTHS OF January TO December, 19 66

(1) Species	Weeks of reporting period (2)									
	Mar.[1] 16	Mar.[2] 23	Mar.[3] 30	Apr.[4] 6	Apr.[5] 13	Apr.[6] 20	Apr.[7] 27	May[8] 4	May 9 11	May[10] 18
Swans:										
Whistling					10	10	10	-	-	-
Trumpeter										
Geese:										
Canada				50	100	50	-			
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard			30	50	60	80	90	100	80	70
Black										
Gadwall					10	10	10	20	15	15
Baldpate					10	10	10	10	10	10
Pintail										
Green-winged teal					4	4	4	4	4	4
Blue-winged teal					50	100	200	340	380	400
Cinnamon teal										
Shoveler							4	4	4	-
Wood			10	40	50	80	100	150	200	190
Redhead						10	10	10	10	-
Ring-necked				20	50	100	150	150	120	100
Canvasback										
Scaup					50	80	100	100	80	60
Goldeneye			20	20	40	40	20	10	-	-
Bufflehead				6	6	10	10	6	-	-
Ruddy										
Other										
Coot:				10	40	100	100	200	200	100

Int. Dup. Sec., Wash., D.C. 37944

3-1750
Form NR-1
(Rev. March 1953)

(3)

WATERFOWL

REFUGE Sherburne NWR MONTHS OF January TO December, 19 66

(1) Species	(2) Weeks of reporting period									
	May 1 25	Jun 2 1	Jun 3 8	Jun 4 15	Jun 5 22	Jun 6 29	July 7 6	July 8 13	July 9 20	July 10 27
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	70	65	65	65	65	65	65	65	65	65
Black										
Gadwall	15	15	15	15	15	15	15	15	15	15
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal	200	100	50	50	35	35	35	35	35	35
Cinnamon teal										
Shoveler										
Wood	180	180	180	175	175	175	175	175	175	175
Redhead										
Ring-necked	60	45	45	45	45	45	45	45	45	45
Canvasback										
Scaup	55	55	45	45	45	55	55	55	55	55
Goldeneye										
Bufflehead										
Ruddy										
Other										
Coot:	50									

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3-1750
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(Rev. March 1953)

(4)

WATERFOWL

REFUGE Sherburne NWR

MONTHS OF January TO December, 19 66

(1) Species	(2) Weeks of reporting period: Aug 1 3	Aug 2 10	Aug 3 17	Aug 4 24	Aug 5 31	Sept 6 7	Sept 7 14	Sept 8 21	Sept 9 28	Oct 10 5	
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada											60
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	65	65	65	200	200	400	400	800	300	600	
Black	-	-									
Gadwall	15	15	15	15	15	15	15	15	15	15	
Baldpate				30	30	60	100	100	400	50	
Pintail						30	30	40	20	100	
Green-winged teal				5	5	5	20	40	150	100	
Blue-winged teal	200	210	210	600	1200	1200	600	600	600	200	
Cinnamon teal											
Shoveler											
Wood	175	520	520	520	800	800	700	600	200	50	
Redhead											
Ring-necked	45	40	40	40	35	20	20	20	20	15	
Canvasback											
Scaup	55	50	50	50	35	20	20	20	20	30	
Goldeneye											
Bufflehead											
Ruddy											
Other											
Coot:				15	200	1,000	3,000	4,000	4,000	2500	

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Form NR-1
(Rev. March 1953)

(5)

WATERFOWL

REFUGE Sherburne NWR

MONTHS OF January TO December, 19 66

(1) Species	(2) Weeks of reporting period									
	Oct 1 12	Oct 2 19	Oct 3 26	Nov 4 2	Nov 5 9	Nov 6 16	Nov 7 23	Nov 8 30	Dec 9 7	Dec 10 14
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	60									
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	300	300	150	50	25	10	10			
Black										
Gadwall										
Baldpate	20	20								
Pintail	50	50								
Green-winged teal	100									
Blue-winged teal	100	50	25							
Cinnamon teal										
Shoveler										
Wood	25	25	25	10						
Redhead										
Ring-necked	150	150	100							
Canvasback										
Scaup	100	100	50							
Goldeneye										
Bufflehead										
Ruddy										
Other										
Coot:	1500	1100	500	200	100					

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3-1750a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Sherburne NWR MONTHS OF January TO December, 1966

(1) Species	(2) Weeks of reporting period: Dec 11 21	Dec 28	13	14	15	16	17	18	(3) Estimated waterfowl days use	(4) Production: Broods seen	Estimated total
Swans:	NO WATERFOWL PRESENT										
Whistling											
Trumpeter											
Geese:											
Canada									840		
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard									36,085	7	35
Black											
Gadwall									2,660		
Baldpate									6,090		
Pintail									2,240		
Green-winged teal									3,143		
Blue-winged teal									55,125	9	45
Cinnamon teal											
Shoveler									84		
Wood									50,625	2	10
Redhead									308		
Ring-necked									12,950	1	5
Canvasback											
Scaup									10,570	1	5
Goldeneye									1,050		
Bufflehead									266		
Ruddy											
Other											
Coots:									104,405		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY
Swans	-	-	-	Principal feeding areas Rice Lake, Mud Lake, Lake Josephine,
Geese	840	60	-	Durgin Slough, Johnson Slough
Ducks	181,196	2,235	100	Principal nesting areas Rice Lake, Mud Lake, Lake Josephine,
Coots	104,405	4,000	-	Durgin Slough, Johnson Slough

Reported by Barnet W. Lebsack

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

3-1751
Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Sherburne Months of January to December 1966

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Common Loon	4	5/15	4	5/15	4	8/25		1	1	4
Sora Rail	2	6/5	250	6/15	3	9/2		150	300	600
American Coot	5	5/10	4,000	9/21	100	11/9				5,000
Great Blue Heron	1	4/10	26	6/11	1	9/3				30
Green Heron	1	5/2	32	6/15	1	9/3				40
Black-crowned night Heron	1	4/15	10	6/5	4	6/20				20
Least Bittern	1	6/25	5	6/30	1	9/2				20
American Bittern	1	4/13	20	6/20	1	9/10				40
II. Shorebirds, Gulls and Terns:										
Killdeer	4	4/20	35	7/8	3	9/1	-	15	30	70
Common Snipe	1	5/3	49	7/8	1	10/1				100
Spotted Sandpiper	1	5/5	15	5/20	1	7/25				20
Greater Yellowlegs	1	5/4	40	9/8	1	9/25				70
Wilson's Phalarope	1	5/6	4	5/25	4	5/25				10
Northern Phalarope	1	5/10	6	5/30	6	5/30				10
Ring-billed gull	1	5/5	6	9/3	6	9/3				25
Common Tern	1	4/13	1	4/13	1	4/13				10
Black Tern	1	4/13	25	6/20	2	9/1				40

(over)

(1)	(2)		(3)		(4)		(5)			(6)
III. Doves and Pigeons:										
Mourning dove	1	4/9	150	6/30	5	12/10		50	100	300
White-winged dove										
IV. Predaceous Birds:										
Golden eagle										
Duck hawk										
Horned owl	All Year		4	9/15				5	10	20
Magpie										
Raven										
Crow	All Year		35	9/10				10	20	50
Snowy Owl	1	12/28	1	12/28	1	12/28				1
Marsh Hawk										
Red-tailed Hawk	3	3/20	6	6/27	1	10/15		2	4	10
Broad-winged Hawk	1	6/22	3	6/30	1	9/20				10
Sparrow Hawk	2	4/10	12	7/2	1	9/6		2	4	20

Reported by B.W. Schranck, Asst. ManagerRefuge

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

36104

3-1750b
Form NR-1B
(Rev. Nov. 1957)

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Sherburne — For 12-month period ending August 31, 1966

Reported by B. W. Schranck — Title Assistant Refuge Manager

(1) Area or Unit Designation	(2) Habitat Type	(2) Habitat Acreage	(3)	(3) Use-days	(4) Breeding Population	(5) Production
1	Crops	2,186.4	Ducks	5,450	13	25
	Upland	4,380.7	Geese			
	Marsh	3,373.7	Swans			
	Water	0	Coots			
	Total	9,940.8	Total	5,450	13	25
2	Crops	834.7	Ducks	6,250	10	
	Upland	1,253.0	Geese			
	Marsh	1,095.9	Swans			
	Water	17.9	Coots			
	Total	3,201.5	Total	6,250	10	
3	Crops	706.6	Ducks	23,718	67	200
	Upland	3,069.4	Geese			
	Marsh	2,182.6	Swans			
	Water	215.7	Coots	2,000		
	Total	6,174.3	Total	25,718	67	200
4	Crops	983.8	Ducks	36,900	60	100
	Upland	2,104.4	Geese			
	Marsh	1,447.4	Swans			
	Water	250.2	Coots	3,000		
	Total	4,785.8	Total	39,900	60	100
5	Crops	556.5	Ducks	14,745	33	125
	Upland	1,436.2	Geese			
	Marsh	482.9	Swans			
	Water	0	Coots	2,105		
	Total	2,475.6	Total	16,850	33	125
6	Crops	554.0	Ducks	8,530	13	50
	Upland	2,543.0	Geese			
	Marsh	1,214.7	Swans			
	Water	12.2	Coots			
	Total	4,323.9	Total	8,530	13	50
	Crops	5,822	Ducks	95,593	196	500
	Upland	14,787	Geese			
	Marsh	9,797	Swans			
	Water	496	Coots	7,105		
	Total	30,902	Total	102,698	196	500

(over)

INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

(1) **Area or Unit:** A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.

(2) **Habitat:** Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.

(3) **Use-days:** Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form MR-1.

(4) **Breeding Population:** An estimate of the total breeding population of each category of birds for each area or unit.

(5) **Production:** Estimated total number of young raised to flight age.

Interior Duplicating Section, Washington, D. C. 27580

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Sherburne Months of January 1 to December 31, 1966

(1) Species	(2) Density	(3) Young Produced			(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres Per Bird	Number broods observed	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	grassland, reverting agricultural lands, marshes and fields 16,058 acres	642	1	12	50:50	0	0	0	25	Pheasant numbers are at an all time low.
Ruffed Grouse	Upland, bottom land and timber and scrub swamps 15,595 acres.	51	2	100	50:50	20	0	0	300	Ten mile strip census used, grouse up from last year.

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, phesants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

*Only columns applicable to the period covered should be used.

3-1753
Form NR-3
(June 1945)

BIG GAME

Refuge Sherburne Calendar Year 1966

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re-stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
White-tailed deer	Cropland - 5822 Upland - 14,787 Marsh - 9,797	50	40	0	0	0	0	0	0	0	-	160	125	50:50

Remarks:

Reported by B. W. Schranck, Assistant Refuge Manager

INSTRUCTIONS

Form NR-3 - BIG GAME

(1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.

(2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated total number of young produced on refuge.

(4) REMOVALS: Indicate total number in each category removed during the year.

(5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.

(6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.

(7) TOTAL REFUGE POPULATION: Give the estimated population of <u>each species</u> on the refuge at period of its greatest abundance and also as of Dec. 31.

(8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

3-1754
Form NR-4
(June 1945)

SMALL MAMMALS

Refuge Sherburne Year ending ~~April 30~~ December 31, 1966

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs						(5) Total Population
								Share Trapping						
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re-stocking	For Re-search	Permit Number	Trappers Share	Refuge share	Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	
Striped Skunk	Entire refuge - 30,900 acres	103	30	3	0	0	0							300
Raccoon	Entire refuge 30,900 acres	103	50	0	0	0	0							300
Red Fox	Entire refuge 30,900 acres	412												75
Gray Squirrel	Upland timber 8,142	20												400
Fox squirrel	Upland timber 8,142	81												100
Red squirrel	Upland timber 8,142	162												50
Beaver	Marsh 9,797	2449	0	0	0	0	0							4
Muskrat	Marsh 9,797	6	0	800	0	0	0							1,500
Mink	Marsh 9,797	32	0	75	0	0	0							300

* List removals by Predator Animal Hunter

REMARKS:

Daniel W. Schranck

Reported by B. W. Schranck, Assistant Refuge Manager

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

(1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)

(2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headingslisted.

(4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

(5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.

REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

32/15

3-1755
Form NR-5
60701

DISEASE

Refuge Sherburne NWR Year 19 66

Botulism None to Report

Period of outbreak _____

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.

Condition of vegetation and invertebrate life _____

Remarks _____

Lead Poisoning or other Disease

Kind of disease _____

Species affected _____

Number Affected Species	Actual Count	Estimated

Number Recovered _____

Number lost _____

Source of infection _____

Water conditions _____

Food conditions _____

Remarks _____

NR-6 Bureau of Sport Fisheries and Wildlife

PUBLIC RELATIONS

(See Instructions on Reverse Side)

Refuge Sherburne NWR Calendar Year 1966

1. Visits

a. Hunting 2600 b. Fishing - c. Miscellaneous 2960 d. TOTAL VISITS 5760

1a. Hunting (on refuge lands)

TYPE	HUNTERS	ACRES	MANAGED BY
Waterfowl	2000	950	
Upland Game	300	31,000	
Big Game	250	31,000	
Other	50	31,000	

Number of permanent blinds None

Man-days of bow hunting included above 50

Estimated man-days of hunting on lands adjacent to refuge 100

1b. Fishing (area open to fishing on refuge lands)

TYPE OF AREA	ACRES	MILES
Ponds or Lakes	None	
Streams and Shores	-	38 Miles

1c. Miscellaneous Visits

Recreation 2660 Official 200

Economic Use 100 Industrial -

2. Refuge Participation (groups)

TYPE OF ORGANIZATION	On Refuge NO. OF GROUPS	On Refuge NUMBER IN GROUPS	Off Refuge NO. OF GROUPS	Off Refuge NUMBER IN GROUPS
Sportsmen Clubs			23	1150
Bird and Garden Clubs				
Schools	1	25	10	225
Service Clubs			8	320
Youth Groups				
Professional-Scientific	1	35	1	40
Religious Groups				
State or Federal Govt.	20	60		
Other	10	40		

3. Other Activities

TYPE	NUMBER	TYPE	NUMBER
Press Releases	12	Radio Presentations	4
Newspapers (P.R.'s sent to)	5	Exhibits	1
TV Presentations	-	Est. Exhibit Viewers	4,000

3-1756
(Rev. 4/63)

INSTRUCTIONS

Item 1: Total of a, b, and c, equal d.

"Visit" - definition. Any person who is on refuge lands or waters during a day or part thereof for the purpose of: hunting, fishing, bird-watching, recreation, business or economic use, official visit, or similar interest. INCLUDE - those who stop within the refuge while traveling on a public highway because of an interest in the area. EXCLUDE - persons engaged in oil or other industry not directly related to the refuge, persons using refuge as most direct route or principal avenue of traffic, and those boating on navigable rivers or the Intercoastal Canal, unless they stop to observe wildlife on the refuge.

Computing visits. Where actual counts are impractical, "sampling" is used with midweek and weekend samples varied by season or weather. A conversion factor of 3.5 (of passengers per car) is used when accurate figures are not available. Each refuge will develop a conversion factor for boats based on range of usage. Count a camper once for each 24-hour period or fraction thereof.

Item 1a: Acres - of refuge open for each type of hunting.

Managed hunts require check in and out of hunters, issuance of permits, or assignment of blinds.

Other - INCLUDE crow, fox, and similar hunting.

Lands adjacent to refuge. Normally considered within 1 mile or less of boundary, unless established sampling procedures cover a wider area. For big game hunting, the distance may be greater.

Item 1b: Acres of streams open to fishing, if practical; otherwise just miles open. Information on "shores" is primarily for coastal fishing.

Item 1c: Recreation. INCLUDE photography, observing wildlife, picnicking, swimming, boating, camping, visitor center use, tours, etc. TOTAL Recreation, Official, and Economic Use visits under Item 1.

Industrial. INCLUDE persons engaged in industry, i.e., oil industry or factories. EXCLUDE these from Item 1.

Item 2: INCLUDE the "On Refuge" groups in Items 1c and 1. In "Off Refuge" column include only those group meetings in which refuge employees actually participate. EXCLUDE these from Items 1c and 1.

Item 3: Exhibits - INCLUDE displays, fairs, parades, and exhibits OFF the refuge; EXCLUDE those ON.

-1757
orm NR-7
Rev. June 1960)

NONAGRICU JRAL COLLECTIONS, RECEIPTS, ANI LANTINGS (1)

Refuge Sherburne NWR Year 1966

	Collections and Receipts (Seeds, rootstocks, trees, shrubs)						Plantings (Marsh - Aquatic - Upland)						
Species	Amount (Lbs., bus., etc.)	(2) C or R	Date	Method or Source	Cost	(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules	Date	Survival	Cause of Loss
						None							

(1) Report agronomic farm crops on Form NR-8
(2) C = Collections and R = Receipts
(3) Use "S" to denote surplus

otal acreage planted:
Marsh and aquatic _____
Hedgerows, cover patches _____
Food strips, food patches _____
Forest plantings _____

Remarks: _____

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Sherburne NWR County Sherburne State Minnesota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Waterfowl Browsing Crops Type and Kind	Total Acreage
			Harvested		Unharvested				
	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons			
Corn	38.3				10.2		48.5		48.5
Rye(for harvest in 1967)							48.5	Fall rye, 48.5 acres for goose browse.	48.5
								Fallow Ag. Land	none

No. of Permittees: Agricultural Operations 4 Haying Operations None Grazing Operations None

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
None				1. Cattle	None			
				2. Other	None			
				1. Total Refuge Acreage Under Cultivation				97.0
Hay - Wild	None			2. Acreage Cultivated as Service Operation				0

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

INT.-DUP. SEC., WASH., D.C. 91767

3-1761
Form NR-11
(2/46)

TIMBER REMOVAL

Refuge Sherburne NWR Year 1966

Permittee	Permit No.	Unit or Location	Acreage	No. of Units Expressed in B. F., ties, etc.	Rate of Charge	Total Income	Reservations and/or Diameter Limits	Species Cut
Nan Conifer Co.	Sher-1	McNamara Tract(28)	35 ac	657 Christmas Trees	$.35/ Scotch $.25/ Norway	$30.20	$143.50 credit given to comply with former Land-owners reservation	375 Norway Christmas trees 282 Scotch Christmas trees
Nelson's Tree Farms	Sher-2	Bergerson Tract(43) Olaffson Tract(179) Berlin(22) Mason(259)	145 ac	766 Christmas Trees	$.25 / Christmas Tree	$191.50	For both permits: cuttings to take place until 1970. Clearcut Scotch pine and leave 100 Norway pine trees per acre.	Scotch pine and Norway pine Christmas trees.

Total acreage cut over 180 Total income $221.70

No. of units removed B. F. Method of slash disposal None

Cords

Ties

Christmas trees 1423

INT.-DUP. SEC., WASH., D.C. 36103

3-1979 (NR-12)
(9/63)

Bureau of Sport Fisheries and Wildlife

ANNUAL REPORT OF PERSTICIDE APPLICATION

Refuge: Sherburne NWR

Proposal Number:

Reporting Year: 1966

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		None						

10. Summary of results (continue on reverse side, if necessary)

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